

What is claimed is:

1. An air cleaning robot, which performs air cleaning while traveling around a predetermined area, comprising:

a robot body;

5 a driving part for driving a plurality of wheels disposed at lower portions of the robot body;

an air cleaning part disposed in the robot body, for drawing-in dust-laden air from a cleaning area, air filtering, and discharging cleaned air; and

a controller disposed in the robot body for controlling the air cleaning part and  
10 the driving part.

2. The air cleaning robot as claimed in claim 1, wherein the controller controls the driving part and the air cleaning part simultaneously which allows the robot to both travel around the predetermined area while simultaneously air cleaning.

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3. The air cleaning robot as claimed in claim 1, wherein the driving part comprises:

a pair of driving motors disposed in the robot body and driven by power supplied respectively thereto;

20 a pair of driving wheels rotated by the pair of driving motors;

a pair of driven wheels proceeding the pair of driving wheels; and

a power transmitting means connecting the driving wheels and the driven wheels.

4. The air cleaning robot as claimed in claim 3, wherein the power transmitting means includes a timing belt.

5. The air cleaning robot as claimed in claim 1, wherein the robot body is  
5 connected to a body cover and forms an exterior of the air cleaning robot, and the air cleaning part comprises:

a suction driving source drawing-in the dust-laden air from the predetermined area;

a suction port connected to one side of the body cover;

10 a discharge port connected to another side of the body cover to discharge cleaned air;

an air cleaning duct disposed in the robot body in communication with the suction port through to the discharge port; and

a plurality of filters disposed in the air cleaning duct for filtering drawn-in air.

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6. The air cleaning robot as claimed in claim 5, wherein the suction port is disposed at one side of a front portion of the body cover.

7. The air cleaning robot as claimed in claim 5, wherein the suction port is  
20 disposed on one side of an upper portion of the body cover.

8. The air cleaning robot as claimed in claim 6, wherein the discharge port is disposed at another other side of the front portion of the body cover.

9. The air cleaning robot as claimed in claim 7, wherein the discharge port is disposed at another side of a front portion of the body cover.
10. The air cleaning robot as claimed in claim 6, wherein the discharge port is  
5 disposed at another side of an upper portion of the body cover.
11. The air cleaning robot as claimed in claim 7, wherein the discharge port is disposed at another side of the upper portion of the body cover.
- 10 12. The air cleaning robot as claimed in claim 5, wherein the suction driving source is disposed inside the air cleaning duct to draw-in air.
13. The air cleaning robot as claimed in claim 5, wherein the plurality of filters comprises:  
15 a first filter for filtering out relatively large dust particles from drawn-in air; and  
a second filter for removing minute dust particles and unpleasant odors.
14. An air cleaning robot system which comprises a driving part for driving a plurality of wheels and a controller for controlling the driving part, further comprising  
20 an air cleaning part controlled by a controller, the system automatically traveling along a predetermined area while simultaneously air cleaning.
15. The system as claimed in claim 14, wherein the air cleaning part comprises a suction driving source for drawing-in dust-laden air from the predetermined area, a

suction port through which air is drawn-in, a discharge port for discharging cleaned air therethrough, at least one filter for filtering drawn-in air, and, when the suction driving source is driven by the controller, air is drawn-in through the suction port and filtered by the filter, and cleaned air is discharged through the discharge port.

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